

Winnowing the Chaff: Designing and Building a Grain Milling and Processing Web Library

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11/6/2006



Need for a website for grain milling

- KSU's Grain Science curriculum is unique
- Covers post harvest grain processing. Includes milling, baking, snacks, animal feeds, and industrial uses
- International Grains Program trains industrial professionals
- Information is all over the web; librarians had an opportunity to select and organize.

Project Participants

- Yongli Zhou
- Diana Farmer
- Mohan Ramaswamy
- Mike Haddock

11/6/2006



Collection of user input

- We spoke with faculty and students in the Grain Science department
- Obtained valuable input about selecting content and developing subject categories
- Iterated the process as we developed the web design and added content

Website design

- Original design was created as a story board and was used to obtain user feedback
- Initial web design had static HTML pages
- Users and librarians agreed that having search capability would be useful
- Created an Access database to store the data; developed a dynamic website
- Included a “librarian interface” for content management

Usability & maintenance

- Eye-catching interface
- Easy navigation
 - uniform top navigation menu
 - standard footer
- Easy maintenance
 - Templates
 - Database driven
- Searchable

Milling

- [Associations & Organizations](#)
- [Commercial Sites](#)
- [Education & Careers](#)
- [Marketing](#)
- [Research & Statistics](#)
- [Storage & Quality](#)

Baking

- [Associations & Organizations](#)
- [Cereal Chemistry](#)
- [Commercial Sites](#)
- [Education & Careers](#)
- [Marketing](#)
- [Research & Statistics](#)

Cereal Foods

- [Associations & Organizations](#)
- [Commercial Sites](#)
- [Education & Careers](#)
- [Marketing](#)
- [Research & Statistics](#)

Feed Production

- [Associations & Organizations](#)
- [Commercial Sites](#)
- [Education & Careers](#)
- [Extrusion](#)
- [Marketing](#)
- [Processing & Premixing](#)
- [Research & Statistics](#)
- [Storage & Quality](#)

Industrial Uses

- [Associations & Organizations](#)
- [Commercial Sites](#)
- [Education & Careers](#)
- [Patent Resources](#)
- [Product Development](#)
- [Research & Statistics](#)

About Us

- [Ask A Question](#)
- [Comments](#)

Grain Milling & Processing Database

AgNIC

Grain Milling & Processing Database

View Tables: [Content & Profiles Full](#) | [Content & Profiles Brief](#) | [Content](#) | [Profiles](#) | [Subjects, Categories, Subcategories](#) | [Database Home](#)

Create a New Record: [Create Content](#) | [Create Profile](#)

Update Tables & Delete Records: In order to update a record, you visit one of these tables, content & profiles, content, or profiles first. Click "update record" or "delete record" link to do the update or deletion. You cannot update subjects, categories, nor subcategories.

If you have any questions pls contact Yongli.

[home](#) | [site map](#) | [milling](#) | [baking](#) | [cereal foods](#) | [feeds](#) | [industrial uses](#)
[about us](#) | [contact us](#)

Create a New Record for Content

View Tables: [Content & Profiles Full](#) | [Content & Profiles Brief](#) | [Content](#) | [Profiles](#) | [Subjects, Categories, Subcategories](#) | [Database Home](#)

Create a New Record: [Create Content](#) | [Create Profile](#)

Update Tables & Delete Records: In order to update a record, you visit one of these tables, content & profiles, content, or profiles first. Click "update record" or "delete record" link to do the update or deletion. You cannot update subjects, categories, nor subcategories.

The Last Record's Content ID is 356

* Content_id:	<input type="text"/>
* Title:	<input type="text"/>
Creator:	<input type="text"/>
* Description:	<input type="text"/>
Publisher:	<input type="text"/>
Date:	<input type="text"/>
Resource Type Lookup:	<input type="text"/>
Resource Identifier:	<input type="text"/>
include http://	<input type="text"/>
Language:	<input type="text" value="Eng."/>
Coverage:	<input type="text"/>
Format:	<input type="text"/>
Resource Size:	<input type="text"/>
<input type="button" value="Insert record"/>	

Grain Milling & Processing Database



Database: Create a Profile

View Tables: [Content & Profiles Full](#) | [Content & Profiles Brief](#) | [Content](#) | [Profiles](#) | [Subjects, Categories, Subcategories](#) | [Database Home](#)

Create a New Record: [Create Content](#) | [Create Profile](#)

Update Tables & Delete Records: In order to update a record, you visit one of these tables, content & profiles, content, or profiles first. Click "update record" or "delete record" link to do the update or deletion. You cannot update subjects, categories, nor subcategories.

* **Profile ID:** max number of characters are 4, input integers only

* **Content ID:** max number of characters are 4, input integers only

* **Subject Id:** ☐ milling ☐ feeds
☐ baking ☐ industrial uses
☐ cereal foods

* **Category ID:** ☐ Associations & Organizations ☐ Research & Statistics
☐ Commercial Sites ☐ Patent Resources
☐ Education & Careers
☐ Marketing

* **Subcategory Id:** ☐ U.S. ☐ Print Resource
☐ Other National ☐ Statistics
☐ International ☐ Database
☐ Magazine/Newsletter ☐ Research Project
☐ Full Text ☐ Research Lab

Insert record

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Grain Milling & Processing Database

View Tables: [Content & Profiles Full](#) | [Content & Profiles Brief](#) | [Content](#) | [Profiles](#) | [Subjects](#), [Categories](#), [Subcategories](#) | [Database Home](#)

Create a New Record: [Create Content](#) | [Create Profile](#)

Update Tables & Delete Records: In order to update a record, you visit one of these tables, content & profiles, content, or profiles first. Click "update record" or "delete record" link to do the update or deletion. You cannot update subjects, categories, nor subcategories.

Subjects

Subject ID	Subject Name
1	milling
2	baking
3	cereal foods
4	feeds
5	industrial uses

Categories

Category ID	Category Name
1	associations & organizations
2	commercial sites
3	education & careers
4	marketing
5	research & statistics
6	patent resources

Subcategories

Subcategory ID	Subcategory Name
1	United States
2	Other National
3	International
4	Magazines/Newsletter
5	Full Text Resources
6	Print Resources
7	Statistics

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Content ID & Profile ID: 39 & 39

subject | category | subcategory: baking-> associations & organizations -> International

Record #

41

Title American Association of Cereal Chemists International

Creator

Description An international non-profit organization of members who are specialists in the use of cereal grains in foods. This association publishes Cereal Chemistry and Cereal Foods World as well as books on grain and food science.

Publisher AACC International

Date

Resource Type Lookup web page

Resource Identifier <http://www.aaccnet.org/>

Language eng,

Coverage

Format

Resource Size

Update Content

Update Profile

Delete Profile

Add Profile

Delete Record



Content ID & Profile ID: 39 & 40

subject | category | subcategory: cereal foods-> associations & organizations -> International

Record #

42

Title American Association of Cereal Chemists International

Creator

Description An international non-profit organization of members who are specialists in the use of cereal grains in foods. This association publishes Cereal Chemistry and Cereal Foods World as well as books on grain and food science.

Publisher AACC International

Date

Resource Type Lookup web page

Resource Identifier <http://www.aaccnet.org/>

Language eng,

Coverage

Format

Resource Size

Update Content

Update Profile

Delete Profile

Add Profile

Delete Record



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Update Tables & Delete Records: In order to update a record, you visit one of these tables, content & profiles, content, or profiles first. Click "update record" or "delete record" link to do the update or deletion. You cannot update subjects, categories, nor subcategories.

Note: This page is ordered by page titles

Total Record #: 521 [First Page](#) [Previous Page](#) [Next Page](#) [Last Page](#)

1	Content ID/Profile ID	239 & 100
Title	AAFCO Feed Inspector's Manual, 2nd ed.	
2	Content ID/Profile ID	248 & 292
Title	ABA Labeling Manual	
3	Content ID/Profile ID	79 & 329
Title	ABNA : Associated British Nutrition & Agriproducts	
4	Content ID/Profile ID	79 & 330
Title	ABNA : Associated British Nutrition & Agriproducts	
5	Content ID/Profile ID	271 & 318
Title	Acrivarn	
6	Content ID/Profile ID	164 & 162
Title	Advanced Grain Marketing, Iowa State University	
7	Content ID/Profile ID	340 & 502
Title	AFRIS: Animal Feed Resources Information System	
8	Content ID/Profile ID	114 & 110
Title	Ag Biotechnology Patents and New Technologies	
9	Content ID/Profile ID	48 & 52
Title	AgBioForum	
10	Content ID/Profile ID	172 & 167
Title	AGRI-associates, Inc.	
11	Content ID/Profile ID	172 & 253
Title	AGRI-associates, Inc.	
12	Content ID/Profile ID	172 & 254
Title	AGRI-associates, Inc.	
13	Content ID/Profile ID	172 & 255
Title	AGRI-associates, Inc.	
14	Content ID/Profile ID	172 & 256
Title	AGRI-associates, Inc.	
15	Content ID/Profile ID	184 & 237


Building a dynamic site

- MySQL database
- Used phpMyAdmin to manage the database
- Programmed in PHP language to create dynamic web pages
- Used Google Search Appliance for local search

Building database using phpMyAdmin

- Building the database is as easy as filling out forms
- Can import text file for table entries
- Can export table entries as text, SQL, or Excel files
- Can manage multiple databases under the same interface

phpMyAdmin interface



Database

grainmilling (6)

- categories
- content
- login
- profiles
- subcategories
- subjects

Server: localhost ▶ Database: grainmilling ▶ Table: content "InnoDB free: 9216 kB"

[Browse](#) [Structure](#) [SQL](#) [Search](#) [Insert](#) [Export](#) [Import](#) [Operations](#)





Showing rows 0 - 29 (356 total, Query took 0.0009 sec)

SQL query:

```
SELECT *  
FROM `content`  
LIMIT 0 , 30
```

Show: 30 row(s) starting from record # 30 in horizontal mode and repeat headers after 100 cells

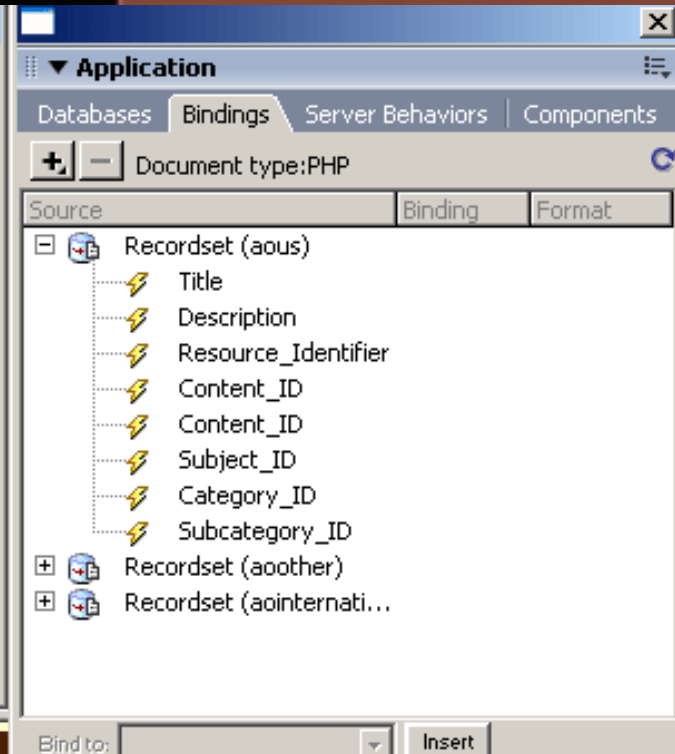
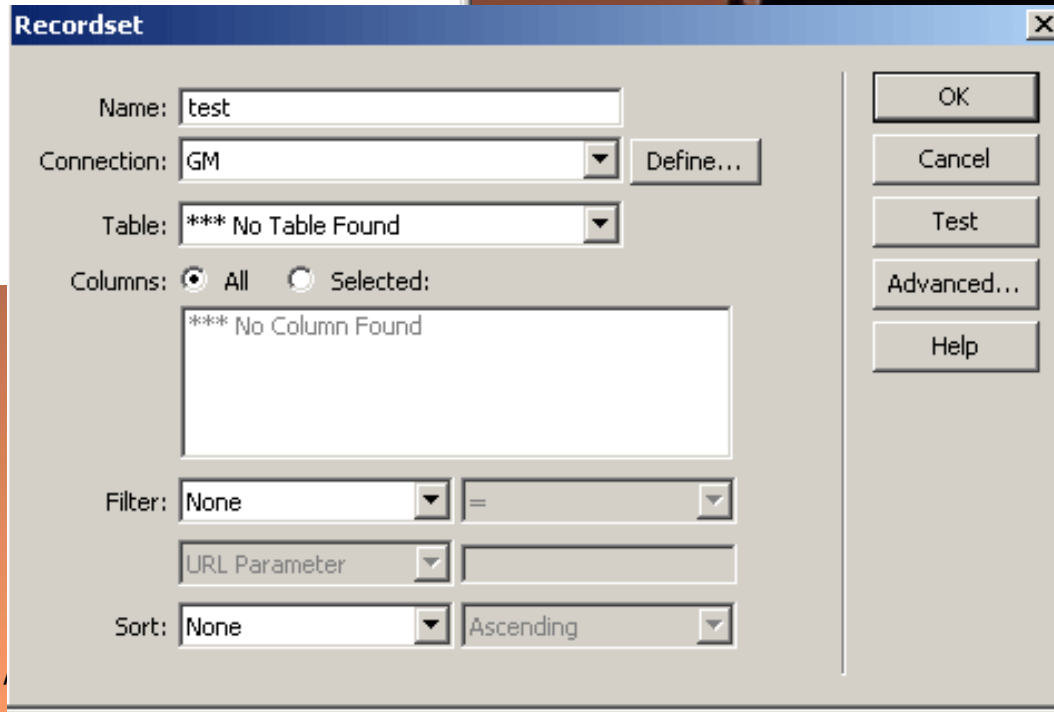
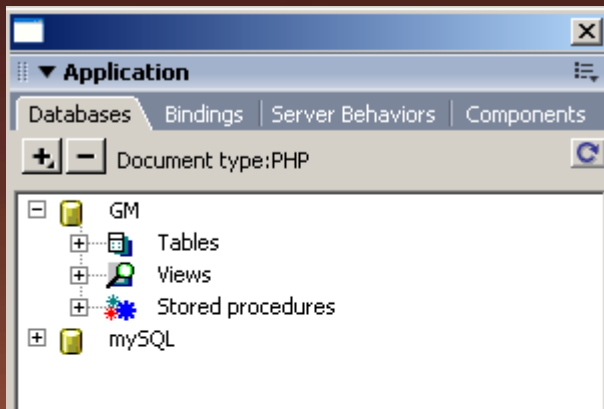
Sort by key: None Go

			content_id	title	creator	description	public
<input type="checkbox"/>			1	Rain damage reduced grain quality	NULL	Grain that is re-wet by rainfall after it is dried...	North Dakota University Extension
<input type="checkbox"/>			2	American Institute of Baking	American Institute of Baking	A not-for-profit corporation, founded by the North...	American of Baking

Creating PHP pages using Dreamweaver

- Can create PHP & ASP pages
- Steps to create dynamic pages
 - Create a database connection
 - Define a recordset
 - Display records by drag and drop
 - Add customized queries (not required)
- Can create record insert forms and updating forms

Dreamweaver DB interface



Site Search

- Free Google search plug-in
- Google Search Appliance
 - Locally hosted
 - No waiting
 - User friendly interface
 - Probably the best search application

Issue – What domain name would be used?

Solution:

- Important to have an easy-to-remember URL
- The Dean of Libraries gave approval to register “grainmilling.org”

Issue – Inability of campus central computing to support site as designed

Solution:

- Approval was given to go with commercial hosting of the site on a reliable, secure service.
- MySQL & PHP are more economical

Issue – Meeting AgNIC Standards vis-à-vis User Needs

- Demographics of users necessitated some commercial content; AgNIC standards specify scholarly and research content.
- Clarifications from AgNIC Coordinator led to placing a disclaimer about the commercial content.

Conclusion

- Protocols are established for similar websites
- You are not restricted to only what your university supports
- Having a team to do the development and design work is a lot better than relying on one individual

Questions ?

11/6/2006



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